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(Modified) PTO/SB/08A-B (10-96)
Approved for use through 10/31/99. OMB 0651-0031

Substitute for form 1449A-B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known 10/773,601	
		Application Number	10/103,450 not yet known
		Filing Date	March 20, 2002 February 6, 2004
		First Named Inventor	M into Hiroshi Kumagai
		Group Art Unit	1636
		Examiner Name	Terry Alan McKelvey
		Attorney Docket Number	60-002233US 60-002234US
		Date Submitted	February 27, 2003 February 6, 2004

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code (if known)		
TMc	AA	5,316,930		Loesch-Fries et al.	05/31/1994
↓	AB	5,316,931		Donson et al.	05/31/1994
↓	AC	5,922,602		Kumagai et al.	07/13/1999

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Office	Number	Kind Code (if known)		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS						
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.				
TMc	AD	Helene et al., Biochim. Et Biophys. Acta, 1990, vol. 1049, pp. 99-125				
	AE	French et al., Science, vol. 231, pp. 1294-1297				
	AF	Brisson et al., Expression of a bacterial gene in plants by using a viral vector, Nature, vol. 310, August 9, 1984				
	AG	Lehto et al., Virology, 1990, vol. 175, pp. 30-40.				
↓	AH	Stein et al., Science, Aug. 20, 1993, vol. 261, pp. 1004-1011.				

Examiner Signature	Terry Alan McKelvey	Date Considered	7/25/04
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

COPY FROM PARENT

10/773,601
Not Yet Known

LIST OF REFERENCES CITED BY APPLICANT <i>(Use several sheets if necessary)</i>		ATTY. DOCKET NO. 60-002234WS 0129-000-99960-002233WS	SERIAL NO. 10/103,450 08/260,546
		APPLICANT Kumagai et al.	
		FILING DATE March 20, 2002 June 10, 1994 February 6, 2004	GROUP AHA-1636

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
TM	AA	5,107,065	April 21, 1992	Anti-Sense Regulation of Gene Expression in Plant Cells			
↓	AB	5,231,020	July 27, 1993	Genetic Engineering of Novel Plant Phenotypes			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
							YES NO
TM	AC	WO 93/03161	February 18, 1993	PCT			

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

TM	AD	Rothstein, Steven J. et al. "Stable and heritable inhibition of the expression of nopaline synthase in tobacco expressing antisense RNA". <u>Proceedings of the National Academy of Sciences, USA</u> 84:8439-8443 (1987).
	AE	Smith, C.J.S. et al. "Antisense RNA inhibition of polygalacturonase gene expression in transgenic tomatoes". <u>Nature</u> 334: 724-726 (1988).
↓	AF	Jorgensen, Richard. "Altered gene expression in plants due to <i>trans</i> interactions between homologous genes". <u>Tibtech</u> , Vol 8: 340-344 (1990).
	AG	Grierson, Don et al. "Does co-suppression of sense genes in transgenic plants involve antisense RNA?". <u>Tibtech</u> Vol. 9: T22-T23 (1991). duplicate (see pg 7)
	AH	Bird, Colin R. et al. "Using Antisense RNA To Study Gene Function: Inhibition Of Carotenoid Biosynthesis In Transgenic Tomatoes". <u>BioTechnology</u> , Vol 9: 626-630 (1991). duplicate (pg 7)
	AI	Bartley, Glenn E. et al. "Molecular cloning and expression in photosynthetic bacteria of a soybean cDNA coding for phytoene desaturase, an enzyme of the carotenoid biosynthesis pathway". <u>Proceedings of the National Academy of Sciences, USA</u> 88: 6532-6536 (1991). duplicate (pg 7)
	AJ	Bartley, Glenn E. et al. "A Tomato Gene Expressed during Fruit Ripening Encodes an Enzyme of the Carotenoid Biosynthesis Pathway". <u>The American Society for Biochemistry and Molecular Biology, Inc.</u> Vol 267, No. 8: 5036-5039 (1992). duplicate (pg 7)

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Sheet 2 of 2

<i>Dive</i>	AK	Donson, J. et al. "Systemic expression of a bacterial gene by a tobacco mosaic virus-based vector". <u>Proceedings of the National Academy of Sciences, USA</u> , Vol. 88: 7204-7208 (1991).
	AL	Packer, Iris et al. "A single polypeptide catalyzing the conversion of phytoene to β -carotene is transcriptionally regulated during tomato fruit ripening". <u>Proceedings of the National Academy of Sciences, USA</u> Vol. 89: 4962-4966 (1992).
	AM	Gray, Julie et al. "Molecular biology of fruit ripening and its manipulation with antisense genes". <u>Plant Molecular Biology</u> 19: 69-87 (1992).
	AN	Scolnik, Pablo and Bartley Glenn E. "Phytoene Desaturase from <i>Arabidopsis</i> ". <u>Plant Physiology</u> 103: 1475 (1993).
	AO	Giuliano, Giovanni et al. "Regulation of Carotenoid Biosynthesis during Tomato Development". <u>The Plant Cell</u> , Vol. 5:379-387 (1993).
	AP	Dogbo, Odette et al. "Carotenoid biosynthesis: Isolation and characterization of a bifunctional enzyme catalyzing the synthesis of phytoene". <u>Proceedings of the National Academy of Sciences, USA</u> 85: 7054-7058 (1988).
↓	AQ	van der Krol, Alexander R. et al. "An anti-sense chalcone synthase gene in transgenic plants inhibits flower pigmentation". <u>Nature</u> 333: 866-869 (1988).
EXAMINER	<i>Tonya McElroy</i>	
	DATE CONSIDERED <i>7/25/04</i>	

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Sheet 1 of 1
10773, 601
~~Not Yet Known~~

SUPPLEMENTAL LIST OF REFERENCES CITED BY APPLICANT <i>(Use several sheets if necessary)</i>		ATTY. DOCKET NO. 60-003234US	SERIAL NO. 101103,450
		8129-006-900 60-002233US	08/200,940
		APPLICANT Kumagai et al.	
		FLING DATE March 20, 2002 June 16, 1994	GROUP February 6, 2001 1005-1636

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FLING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
DM	AR	WO A 91 13994	19 Sept 1991	PCT				
	AS	WO A 91 13078	5 Sept 1991	PCT				
	AT	WO A 91 09128	27 June 1991	PCT				
	AU	EP A 0 425 004	2 May 1991	EPO				
V	AV	WO A 90 12107	18 Oct 1990	PCT				

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

DM	AW	Kumagai, et al., 1995, "Cytoplasmic inhibition of carotenoid biosynthesis with virus-derived RNA," <u>Proc. Nat. Acad. Sci. USA</u> 92(5):1679-1683
	AX	Powers et al., 1994, "Intracellular Immunization of Mosquito Cells to LaCrosse Virus Using a Recombinant Sindbis Virus Vector," <u>Virus Research</u> 32(1):57-67
	AY	Misawa et al., 1993, "Functional expression of the <i>Erwinia uredovora</i> carotenoid biosynthesis gene <i>ctr</i> in transgenic plants showing an increase of beta-carotene biosynthesis activity and resistance to the bleaching herbicide norflurazon," <u>The Plant Journal</u> 4(5):833-840
	AZ	Bramley et al., 1992, "Biochemical Characterization of Transgenic Tomato Plants in Which Carotenoid Synthesis has been Inhibited Through the Expression of Antisense RNA to pTOM5," <u>The Plant Journal</u> 2(3):343-349
V	BA	Hayes et al., 1988, "Gene amplification and expression in plants by a replicating geminivirus vector," <u>Nature</u> 334:179-182

EXAMINER	DATE CONSIDERED
Ryan M. Kelley	7/25/04

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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10/773,601 Page 1 of 1

Page 1 of 1

FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT	ATTY. DOCKET NO. 60-002234US 00801-0006-999-002233US	APPLICATION NO. 08/260,546 10/103,450
	APPLICANT Monto KUMAGAI, et al.	
	FILING DATE <u>February 6, 2004</u> <u>June 16, 2004 March 20, 2002</u>	GROUP 1805 1636

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
JMC	5,272,065	Dec 21, 1993	Inouye, et al.	435	91.1	Jan 21, 1990
JMC	5,190,931	Mar 2, 1993	Inouye	435	91	Nov 15, 1989
	5,107,065	Apr 21, 1992	Shewmaker et al. <i>duplicate</i>	800	205	Aug 30, 1988
JMC	5,453,566	Sept 26, 1995	Shewmaker et al. <i>(A4 page 2)</i>	800	205	Aug 27, 1991

FOREIGN PATENT DOCUMENTS

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

EXAMINER *Sony A. McElroy* **DATE CONSIDERED** *7/25/04*

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Sheet 1 of 1 10/773,601

LIST OF REFERENCES CITED BY APPLICANT
(Use several sheets if necessary)

PTO FORM 1449

ATTY. DOCKET NO.
60-00223-408
60-00223-348S
00001.00001.US01APPLICATION NO. 10/103,459
10/103,459
08/265,576

APPLICANT

Monto H. Kumagai, et al.

FILING DATE
February 6, 2004
March 20, 2002
March 9, 1999GROUP
1636

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
JMC	1.	5,539,093	09/23/96	Fitzmaurice, et al.	536	23.2	06/16/94

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
JMC	2.	EP 00 12 7988	10/15/01	European Search Report			X	
	3.	WO 90/12107	10/16/90	PCT duplicate (ref. AV, page 4)			X	
JMC	4.	WO 90/12084	10/18/90	PCT			X	
	5.	WO 90/13078	09/05/91	PCT duplicate (ref. AS page 4)			X	
	6.	WO 91/09128	06/27/91	PCT duplicate (ref. AT page 4)			X	
	7.	WO 91/13994	09/10/01	PCT duplicate (ref. AR, page 4)			X	
	8.	WO 93/03161	02/18/03	PCT duplicate (ref. AC, page 2)			X	
JMC	9.	WO 93/23551	11/25/93	PCT			X	
	10.	EP 0425004A	05/02/94	Europe- duplicate (ref. AU, page 4)			X	

OTHER REFERENCES
(Including Author, Title, Date, Pertinent Pages, Etc.)

JMC	11.	Bramley, et al., "Biochemical characterization of transgenic tomato plants in which carotenoid synthesis has been inhibited through the expression of antisense RNA to pTOM5", <i>The Plant Journal</i> , 2(3):343-349 (1991)
↓	12.	Fray and Grierson, "Identification and genetic analysis of normal and mutant phytoene synthase genes of tomato by sequencing, complementation and co-suppression", <i>Plant Molecular Biology</i> , 22:589-602 (1993)
	13.	Hayes, et al., "Gene amplification and expression in plants by a replicating geminivirus vector", <i>Nature</i> , 334:179-182 (1988) duplicate (ref. BA page 4)
	14.	Kumagai, et al., "Cytoplasmic Inhibition of Carotenoid Biosynthesis with Virus-Derived RNA", <i>Proc. Natl. Acad. Sci. USA</i> 92:1670-1683 (1995) duplicate (ref. AW, page 4)
	15.	Misawa, et al., "Functional expression of the <i>Erwinia uredovora</i> carotenoid biosynthesis gene crt in transgenic plants showing an increase of l-carotene biosynthesis activity and resistance to the bleaching herbicide norflurazon", <i>The Plant Journal</i> , 1(5):833-840 (1993) duplicate (ref. AY, page 4)
	16.	Powers, et al., "Intracellular Immunization of mesquite cells to LaCross virus using a recombinant Sindbis virus vector", <i>Virus Research</i> , 32:57-67 (1994) duplicate (ref. AX, page 4)

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LIST OF REFERENCES CITED BY APPLICANT <i>(Use several sheets if necessary)</i>				ATTY. DOCKET NO. 60-0022334US 008010086US01	APPLICATION NO. 16403,450 007260,546		
PTO FORM 1449				APPLICANT Monto KUMAGAI, et al.			
COPY FROM PARENT				FILING DATE February 6, 2004 March 20, 2002 June 16, 1994	GROUP 1636 4003		
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
<i>TMc</i>		5,107,065	04-21-1992	Shewmaker, et al.			
		5,291,020	07-27-1993	Jorgensen, et al.			<i>duplicate (see AB page 2)</i>
FOREIGN PATENT DOCUMENTS							
				COUNTRY	CLASS	SUBCLASS	TRANSLATION
<i>Mc</i>		WO 91/13994	09-19-1991	PCT			
		WO 93/03161	02-16-1993	PGT <i>duplicate of AC; page 2</i>			
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)							
<i>Mc</i>		Bartley, et al., "A Tomato Gene Expressed during Fruit Ripening Encodes an Enzyme of the Carotenoid Biosynthesis Pathway," <i>Biol. Chem.</i> <u>267</u> (8):5036-5039 (1992)					
<i>L</i>		Bird, et al., "Using Antisense RNA to Study Gene Function: Inhibition of Carotenoid Biosynthesis in Transgenic Tomatoes," <i>Bio/Technology</i> <u>9</u> :635-639 (1991)					
		Dawson, et al., "Regulation of Tobamovirus Gene Expression," <i>Adv. Virus Res.</i> <u>38</u> :307-341 (1990)					
<i>V</i>		Dawson, W.O., et al., "cDNA cloning of the complete genome of tobacco mosaic virus and production of infectious transcripts," <i>Proc. Natl. Acad. Sci. USA</i> <u>83</u> :1832-1836 (1986)					
		Dawson, et al., "Systemic expression of a bacterial gene by a tobacco mosaic virus-based vector," <i>Proc. Natl. Acad. Sci. USA</i> <u>88</u> :7204-7208 (1991) <i>duplicate (AK page 3)</i>					
		Gray, et al., "Molecular biology of fruit ripening and its manipulation with antisense genes," <i>Plant Mol. Biol.</i> <u>19</u> :69-87 (1992) <i>duplicate (AM, page 3)</i>					
<i>Mc</i>		Grierson, et al., "Does co-suppression of sense genes in transgenic plants involve antisense RNA?" <i>Trends in Biotech.</i> <u>9</u> :122-123 (1991)					
<i>V</i>		Kumagal, et al., "Rapid high-level expression of logically active α -trichosanthin in transfected plants by an RNA viral vector," <i>Proc. Natl. Acad. Sci. USA</i> <u>90</u> :427-430 (1993)					

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LIST OF REFERENCES CITED BY APPLICANT <i>(Use several sheets if necessary)</i>		ATTY. DOCKET NO. 60-002234WS 60-002233WS 008010086U601	APPLICATION NO. 107703-150 06/2005,546
PTO FORM 1449		APPLICANT	
COPY FROM PARENT		Monto KUMAGAI, et al.	
<i>Dm</i>	Mol, et al., "Regulation of plant gene expression by antisense RNA," <i>FEBS Lett.</i> <u>268</u> :427-430 (1990)	FILING DATE <u>February 6, 2004</u> <u>ALAVEN 20, 2002</u> <u>June 16, 1994</u>	GROUP <u>1636</u> <u>1805</u>
<i>↓</i>	Napoli, C., et al., "Introduction of a Chimeric Chalcone Synthase Gene into Petunia Results in Reversible Co-Suppression of Homologous Genes in trans," <i>Plant Cell</i> <u>2</u> :279-289 (1990)		
	Pecker, et al., "A single polypeptide catalyzing the conversion of phytoene to β -carotene is transcriptionally regulated during tomato fruit ripening," <i>Proc. Natl. Acad. Sci. USA</i> , <u>89</u> :4962-4966 (1992) — <i>duplicate (px 2, ref AL)</i>		
	Rothstein, et al., "Stable and heritable inhibition of the expression of neoprene synthase in tobacco expressing antisense RNA," <i>Proc. Natl. Acad. Sci. USA</i> <u>84</u> :8439-8443 (1987) (<i>duplicate / AD px 2</i>)		
	Scoulaci and Bartley, "Phytoene Desaturase from <i>Arabidopsis</i> ," <i>Plant Physiol.</i> <u>103</u> :1475 (1993) <i>duplicate</i> (AN px 3)		
<i>Dm</i>	Smith, et al., "Antisense RNA inhibition of polygalacturonase gene expression in transgenic tomatoes," <i>Nature</i> <u>334</u> :724-726 (1990) — <i>(duplicate / AE)</i>		
<i>↓</i>	Van der Krol, A.R., et al., "An anti-sense chalcone synthase gene in transgenic plants inhibits flower pigmentation," <i>Nature</i> <u>333</u> :866-869 (1988)		
	Van der Krol, A.R., et al., "Modulation of Eukaryotic Gene Expression by Complementary RNA or DNA Sequences," <i>BioTechniques</i> <u>6</u> (10):958-976 (1988)		
<p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>			

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PTO/SB/08A (04-03)

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449A-B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>		Application Number	10/103,450. <i>Not yet known</i>
		Filing Date	March 20, 2002 <i>February 6, 2004</i>
		First Named Inventor	Monto Hiroshi Kumagai
		Group Art Unit	1636
		Examiner Name	Terry Alan McKelvey
		Attorney Docket Number	60-002233US 60-002234US
		Date Submitted	September 2, 2003 <i>February 6, 2004</i>

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U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code (if known)		

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Office	Number	Kind Code (if known)		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS							
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.					T
<i>Vm</i>	1	AOYAGI et al., "Nucleotide sequence of the tobacco mosaic virus (tomato strain) genome and comparison with the common strain genome," J.Biochem., 96(6):1915-23; 1984.					
	2	International Committee on Taxonomy of Viruses (ICTV) "00.071.0.01 Tobamovirus: Tobacco mosaic virus (TMV)" Pages 1-5. http://www.ictvdb.rothamsted.ac.uk/ictv/fs_tobam.htm .					
<i>↓</i>	3	X02144: Tobacco Mosaic virus tomato strain; gi:62128.					

Examiner Signature	<i>Terry Alan McKelvey</i>	Date Considered	7/25/04
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Notice of References Cited <i>(892)</i>		Application/Control No. Not Yet Known 10/103,450	Applicant(s)/Patent Under Reexamination KUMAGAI ET AL.
		Examiner Terry McKelvey	Art Unit 1636

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
A	US-5,231,020	07-1993	Jorgensen et al,	435/172-3
B	US-5,316,931	06-1994	Donson et al	435/172-3
C	US-5,022,602	07-1999	Kumagai et al,	435/468
D	US-			
E	US-			
F	US-			
G	US-			
H	US-			
I	US-			
J	US-			
K	US-			
L	US-			
M	US-			

FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
N					
O					
P					
Q					
R					
S					
T					

NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	Aurora Fraile et al, A classification of the tobamoviruses based on comparisons among their 126K proteins, Journal of General Virology 1990, 71: 2223-2228.
V	Julie Gray et al, Molecular biology of fruit ripening and its manipulation with antisense genes, APlant Molecular Biology 19: 69-87. 1992.
W	
X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(e).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.